



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,038	01/28/2002	Toshiro Hayakawa	Q68258	2257
23373	7590	10/03/2003	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. WASHINGTON, DC 20037			NGUYEN, TUAN N	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 10/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/056,038

Applicant(s)

HAYAKAWA, TOSHIRO

Examiner

Tuan N Nguyen

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.


- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1- 18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAIL ACTIONS

Response to Amendment

1. In respond to applicant's amendment filed October 28, 2002, claims 5,8 have been amended, and claims 10-18 have been added. Claims 1-18 are pending.
2. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, **for example**.
5. Claim 1 recites a "light source apparatus equipped with ***a GaN semiconductor light emitting element***, comprising ***a spatial filter*** for eliminating stray light from the light emitted from the GaN semiconductor, wherein stray light amounts to 20% of less of the total output of the light emitted from the GaN semiconductor, when driven at maximum output." "***a GaN semiconductor light emitting element***" is not a positive element in the preamble and the claim has only a single element "a spatial filter..." structure, which render the claim vague and indefinite. Claims 1-5 rejected based on the same reason.

DETAIL ACTIONS

Response to Amendment

1. In respond to applicant's amendment filed October 28, 2002, claims 4, 8, and 9 have been amended, and claims 13 and 14 have been added. The abstract section has been amended and claims 1-14 are pending.
2. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-9 are rejected under 35 U.S.C 112, second paragraph, as being indefinite, vague, and confusing for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, **for example**.
5. Claim 1 recites a "light source apparatus equipped with ***a GaN semiconductor light emitting element***, comprising ***a spatial filter*** for eliminating stray light from the light emitted from the GaN semiconductor, wherein stray light amounts to 20% of less of the total output of the light emitted from the GaN semiconductor, when driven at maximum output." "***a GaN semiconductor light emitting element***" is not a positive element in the preamble and the claim has only a single element "a spatial filter..." structure, which render the claim vague and indefinite. Claims 1-5 rejected based on the same reason.

Art Unit: 2828

6. Claims 8, and 9 recite "*An image forming apparatus* that scans a photosensitive material with a light modulated based on image data to form the image borne by said image data, wherein the light source apparatus for emitting said light is the light source apparatus defined in any one of claims 1 to 5 and 10 to 12" and "... the light source apparatus for emitting said light is the light source apparatus defined in claim 5." It is not clear whether claims 8, and 9 are independent claim or dependent claim based on claims 1 to 5 and 10 to 12, and/or 5.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or non-obviousness.

8. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Scifres et al. (US 4656641).

Art Unit: 2828

With respect to claims 1-7, 10-12, 14, 15 Scifres et al. '641 shows in figures 1a/b, 2a-h, 3, 4a-J, 5a-d, 6a-d, 7a-d, 8a-b and discloses a light source apparatus comprising: a semiconductor laser (F 1a/b: 12) and spatial filter with a slit hole (F 1a/b: 10, 30, 31; Col 1: 60-67), a focus optical system (F 1a/b: 28), for eliminating stray light (Col 1: 35-46; Col 4: 9-20; Col 8: 55-65). Scifres et al. further discloses that the filter is formed of a partial reflective mirror that partial reflects the light (Col 3-4: 65-9) and the instability of the light based on the shifting of higher operating power and operating temperature. The claim further requires a GaN light emitting. Applicant discloses the use of GaN semiconductor laser in the related field and Scifres et al. '641 shows the p/n multi-emitter laser, *or other semiconductor laser* (F1: 12) (Col 2: 1-5) (Col 3: 34-40, it is within the general skill of a worker in the art at the time the invention was made to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. Scifres '641 further suggest the stray light being control so that more energy can be transmissive (Col 3: 65-68, Col 4: 1), where "example, transmissive beam is 70%, and 30% reflective or lost". Discovering the optimum or workable ranges so that stray light is 20% or less involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Since claims 6,7, 14,15 recite the same or identical elements/limitations it is inherent to use patents '641 to recite the method of eliminating stray light by use of a spatial filter, product by process.

With respect to claims 8, 9 Scifres '641 shows in (figure 1a: IMAGE PLANE), and the patent assignee is Xerox Corporation – "copier machine maker" it is inherent obvious that the disclose laser optical system is an image forming apparatus that scan photosensitive material with a light modulated based on image data to form the image borne by said image data.

With respect to claims 13, (Figures 1a, 1b, 2a-2h, 3, 4a-4j, 5a-5d, 7a-7d, 8a/b) show the slit width vary so that the convergence spot light vary. Discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claims 16, 17, 18 it is inherent that the semiconductor laser has an active layer to performing the emitting of laser source, in addition to other layers such as barrier layers (as disclosed by Scifres '641: Col 3: 35-40 – multiquantum well laser) which provide different strip layers/portion. In addition, Scifres disclosed the polarize means of control the wavelength of the emission from the laser – such as grating, prism, or spectral filter (Col 2: 1-5). And it is well known in the art, that light “with relative amount of light” do bounce or crosstalk into other adjacent layers.

Response to Argument

9. Applicant's arguments filed on August 8, 2003 have been fully considered but they are not persuasive.

On page 7 Applicant argues that “specification with reference to Figures 1,3, and 4 explains the structural and functional features on pages 17-20...For example, if the width of the slit is 1mm or 0.7mm, a reduction of stray light is obtained.” The argument is not supported in the claim.

On page 8, Applicant argues that “a single step method claims are patentable”. The argument is not supported by MPEP. “A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth

Art Unit: 2828

rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor. When the claim is drawn into a 'single means' claim or a 'single step' method claim. The claim fails to comply with MPEP 2164.08(a) single means claim."

On page 8-9, Applicant argues "to have high image quality concentration gradation image, the intensity of stray light must be less than or equal to 20% of the intensity of the total output light from GaN type semiconductor." Page 1 and 2 of BACKGROUND OF THE INVENTION Applicant admittedly disclosed the use GaN semiconductor laser in the related field; furthermore, Scifres et al. '641 shows the p/n multi-emitter laser, *or other semiconductor laser* (F1: 12) (Col 2: 1-5) (Col 3: 34-40). Therefore, the "suitability for the intended used" was not misapplied. On page 9, Applicant argues "no teaching or suggestion as to the stray light amounting to 20% or less of the total output of light emitted." Scifres '641 does suggest the stray light being control under 20% so that more energy can be transmissive (Col 3: 65-68, Col 4: 1), where transmissive beam is 70%, and 30% reflective or lost.

On page 9, Applicant argues "there is no teaching or suggestion as to stray light being the cause of the beam shift of the far field pattern,..." The argument is not support by the claim. In

Art Unit: 2828

addition, Scifres '641 discloses in the ABSTRACT and (Col 1: 39-45) the shift for the far field pattern.

Conclusion

10. Applicant's amendment necessitated by the admendment and old ground(s) of rejection presented in this office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan N Nguyen whose telephone number is (703) 605-0756. The examiner can normally be reached on M-F: 7:30 - 4:30PM.

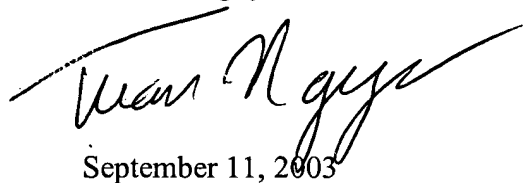
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the

Art Unit: 2828


organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-3329.

Tuan N. Nguyen



September 11, 2003



PAUL IP
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800